

# POPEYE

## SAVES THE EARTH

### Operators Handbook

Midway Manufacturing Company  
3401 North California Avenue  
Chicago, Illinois 60618

## TABLE OF CONTENTS

|   |    |
|---|----|
| MENU.....                                 | 1  |
| LAMP MATRIX.....                          | 2  |
| LAMP LOCATIONS.....                       | 3  |
| SWITCH MATRIX.....                        | 4  |
| SWITCH LOCATIONS.....                     | 5  |
| SOLENOID TABLE.....                       | 6  |
| SOLENOID LOCATIONS.....                   | 7  |
| UPPER PLAYFIELD PARTS LIST.....           | 8  |
| UPPER PLAYFIELD PARTS LOCATIONS.....      | 9  |
| LOWER PLAYFIELD PARTS &<br>LOCATIONS..... | 10 |
| RAMP PARTS & LOCATIONS.....               | 11 |
| RUBBER RING PARTS & LOCATIONS.....        | 12 |
| FUSE LIST.....                            | 13 |

## MENU SYSTEM OPERATION

The Main Menu allows you to choose from several categories, which in turn lead to other menus. To access the Main Menu, open the coin door and press the Begin Test button, then press the Enter button. Press the Up or Down buttons to cycle through the Main Menu. Press the Enter button to access a menu. Press the Escape button to return to the Main Menu. Press the Start button for HELP at any time.

### Main Menu

#### B. Bookkeeping Menu

B.1 Main Audits  
B.2 Earnings Audits  
B.3 Standard Audits  
B.4 Feature Audits  
B.5 Histograms  
B.6 Time-Stamp

#### P. Printouts Menu

P.1 Earnings Data  
P.2 Main Audits  
P.3 Standard Audits  
P.4 Feature Audits  
P.5 Score Histograms  
P.6 Game Time Histograms  
P.7 Time-Stamp  
P.8 All Data

#### T. Test Menu

T.1 Switch Edges  
T.2 Switch Levels  
T.3 Single Switches  
T.4 Solenoid Test  
T.5 Flasher Test  
T.6 General Illumination  
T.7 Sound & Music Test  
T.8 Single Lamp  
T.9 All Lamps  
T.10 Lamp & Flasher Test  
T.11 Display Test  
T.12 Flipper Test  
T.13 Ordered Lamp Test  
T.14 Lockup Test  
T.15 Wheel Test  
T.16 Clear Ball Test

#### U. Utilities Menu

U.1 Clear Audits  
U.2 Clear Coins  
U.3 Reset H.S.T.D.  
U.4 Set Time & Date  
U.5 Custom Message  
U.6 Set Game I.D.  
U.7 Factory Adjustments  
U.8 Factory Resets  
U.9 Presets  
U.10 Clear Credits  
U.11 Auto Bum-In

#### A. Adjustments Menu

A.1 Standard Adjustments  
A.2 Feature Adjustments  
A.3 Pricing Adjustments  
A.4 H.S.T.D. Adjustments  
A.5 Printer Adjustments

#### Press Escape

To move out of a menu selection.

#### Press Enter

To get into a menu selection.

#### Press Up

Increases sequence; Example A.1, A.2, A.3, A.4.

#### Press Down

Decreases Sequence; Example A.4, A.3, A.2, A.1.

Use Up and Down to cycle through the selections in a menu.

Use Escape and Enter to move into and out of the selected menu

## LAMP MATRIX

Yellow (B+) → Red

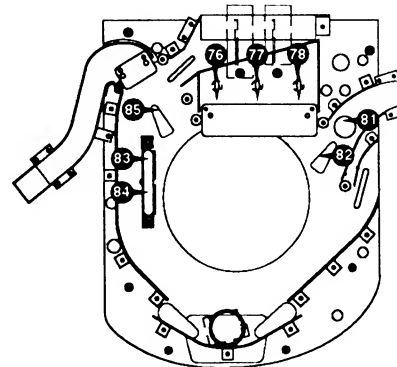
| Column<br>Row | 1<br>Yellow-Brown<br>J138-1<br>Q98 | 2<br>Yellow-Red<br>J138-2<br>Q97 | 3<br>Yellow-Orange<br>J138-3<br>Q96 | 4<br>Yellow-Black<br>J138-4<br>Q95 | 5<br>Yellow-Green<br>J138-5<br>Q94 | 6<br>Yellow-Blue<br>J138-6<br>Q93 | 7<br>Yellow-Violet<br>J138-7<br>Q92 | 8<br>Yellow-Gray<br>J138-9<br>Q91 |                        |
|---------------|------------------------------------|----------------------------------|-------------------------------------|------------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|------------------------|
| 1             | Red-Brown<br>J134-1<br>Q90         | Left Lane<br>11                  | Island Rhino<br>21                  | Lockjaw<br>31                      | Spilco Oil Co.<br>41               | Left Loop Arrow<br>51             | "Sea" Standup<br>61                 | Backbox Tail<br>71                | Upper Extra Ball<br>81 |
| 2             | Red-Black<br>J134-2<br>Q89         | Center Lane<br>12                | Island Leopard<br>22                | Never Green Co.<br>32              | Blutonium Waste<br>42              | Left Loop Can<br>52               | Animal Dolphin<br>62                | Backbox Star<br>72                | Wimpy 2X Wheel<br>82   |
| 3             | Red-Orange<br>J134-4<br>Q88        | Right Lane<br>13                 | Island Eagle<br>23                  | Earth Paving Co.<br>33             | Left Outlane<br>43                 | Popeye "P1"<br>53                 | Left Popper Arrow<br>63             | Animal Rhino<br>73                | Two Bank Upper<br>83   |
| 4             | Red-Yellow<br>J134-5<br>Q87        | Fight Bluto<br>14                | Island Dolphin<br>24                | Escalator Enter<br>34              | Left Flipper Lane<br>44            | Popeye "O"<br>54                  | Instant Multi-ball<br>64            | Backbox Right<br>74               | Two Bank Lower<br>84   |
| 5             | Red-Green<br>J134-6<br>Q86         | Right Popper Can<br>15           | Item Can Opener<br>25               | Popeye "E1"<br>35                  | Right Flipper Lane<br>45           | Popeye "P2"<br>55                 | Left Cheek<br>65                    | Animal Eagle<br>75                | Animal Jackpot<br>85   |
| 6             | Red-Blue<br>J134-7<br>Q85          | Right Loop Arrow<br>16           | Item Bottle<br>26                   | Popeye "Y"<br>36                   | Special<br>46                      | Left Ramp Arrow<br>56             | Right Cheek<br>66                   | Upper Ramp Left<br>76             | Buy-In<br>86           |
| 7             | Red-Violet<br>J134-8<br>Q84        | Right Loop Can<br>17             | Item Katsup<br>27                   | Popeye "E2"<br>37                  | Shoot Again<br>47                  | Collect Item<br>57                | Animal Panda<br>67                  | Upper Ramp Center<br>77           | Launch Button<br>87    |
| 8             | Red-Gray<br>J134-9<br>Q83          | "Hag" Standup<br>18              | Island Panda<br>28                  | Item Flower<br>38                  | Rescue Olive<br>48                 | Left Ramp Can<br>58               | Animal Leopard<br>68                | Upper Ramp Right<br>78            | Start Button<br>88     |

J1XX = Power Driver Board

## LAMP LOCATIONS

| Item No. | Bulb No. | Lamp Assy. No. | Description      | Item No. | Bulb No. | Lamp Assy. No. | Description        |
|----------|----------|----------------|------------------|----------|----------|----------------|--------------------|
| 11       | 24-8768  | A-17824        | Left Lane        | 31       | 24-8768  | A-17802        | Lockjaw            |
| 12       | 24-8768  | A-17824        | Center Lane      | 32       | 24-8768  | A-17602        | Never Green Co.    |
| 13       | 24-8768  | A-17824        | Right Lane       | 33       | 24-8768  | A-17602        | Earth Paving Co.   |
| 14       | 24-8768  | A-17600        | Fight Bluto      | 34       | 24-8768  | A-17602        | Escalator Enter    |
| 15       | 24-8768  | A-17600        | Right Popper Can | 35       | 24-8768  | A-17602        | Popeye "E1"        |
| 16       | 24-8768  | A-17600        | Right Loop Arrow | 36       | 24-8768  | A-17602        | Popeye "Y"         |
| 17       | 24-8768  | A-17600        | Right Loop Can   | 37       | 24-8768  | A-17602        | Popeye "E2"        |
| 18       | 24-8768  | A-17600        | "Hag" Standup    | 38       | 24-8768  | A-17602        | Item Flower        |
| 21       | 24-8768  | A-17602        | Island Rhino     | 41       | 24-8768  | A-17602        | Spilco Oil Co.     |
| 22       | 24-8768  | A-17602        | Island Leopard   | 42       | 24-8768  | A-17602        | Blutonium Waste    |
| 23       | 24-8768  | A-17602        | Island Eagle     | 43       | 24-6549  | A-17835        | Left Outlane       |
| 24       | 24-8768  | A-17602        | Island Dolphin   | 44       | 24-6549  | A-17835        | Left Flipper Lane  |
| 25       | 24-8768  | A-17602        | Item Can Opener  | 45       | 24-6549  | A-17835        | Right Flipper Lane |
| 26       | 24-8768  | A-17602        | Item Bottle      | 46       | 24-6549  | A-17807        | Special            |
| 27       | 24-8768  | A-17602        | Item Katsup      | 47       | 24-6549  | A-17807        | Shoot Again        |
| 28       | 24-8768  | A-17602        | Island Panda     | 48       | 24-6549  | A-17807        | Rescue Olive       |

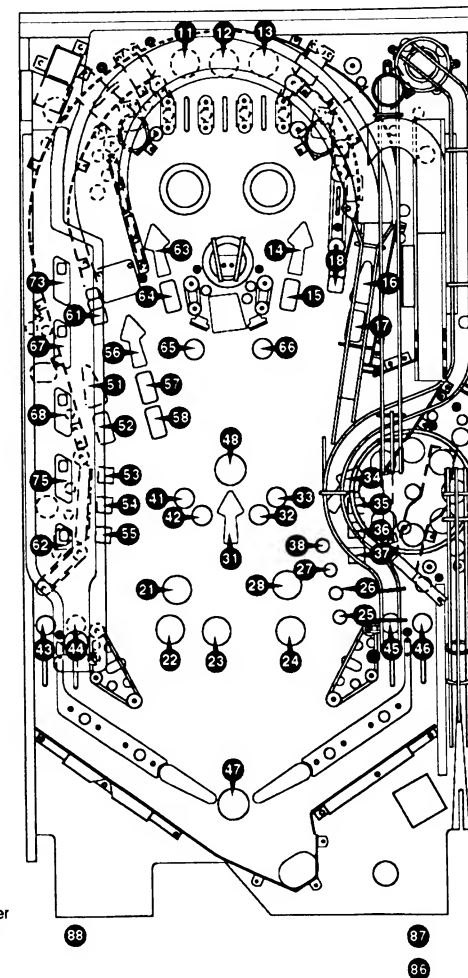
## LAMP LOCATIONS Continued



| Item No. | Bulb No.    | Lamp Assy. No. | Description         |
|----------|-------------|----------------|---------------------|
| 51       | 24-6549     | A-17807        | Left Loop Arrow     |
| 52       | 24-6549     | A-17835        | Left Loop Can       |
| 53       | 24-8768     | A-17603        | Popeye "P1"         |
| 54       | 24-8768     | A-17603        | Popeye "O"          |
| 55       | 24-8768     | A-17603        | Popeye "P2"         |
| 56       | 24-6549     | A-17835        | Left Ramp Arrow     |
| 57       | 24-6549     | A-17835        | Collect Item        |
| 58       | 24-6549     | A-17835        | Left Ramp Can       |
| 61       | 24-6549     | A-17835        | "Sea" Standup       |
| 62       | 24-8768     | A-12887        | Animal Dolphin      |
| 63       | 24-6549     | A-17835        | Instant Multi-ball  |
| 64       | 24-6549     | A-17835        | Left Popper Can     |
| 65       | 24-6549     | A-17807        | Left Cheek          |
| 66       | 24-6549     | A-17807        | Right Cheek         |
| 67       | 24-8768     | A-12887        | Animal Panda        |
| 68       | 24-8768     | A-12887        | Animal Leopard      |
| 71       | 24-8768     | ---            | * Backbox Tail      |
| 72       | 24-8768     | ---            | * Backbox Star      |
| 73       | 24-8768     | A-12887        | Animal Rhino        |
| 74       | 24-8768     | ---            | * Backbox Right     |
| 75       | 24-8768     | A-12887        | Animal Eagle        |
| 76       | 24-6549     | A-11905        | † Upper Ramp Left   |
| 77       | 24-6549     | A-11905        | † Upper Ramp Center |
| 78       | 24-6549     | A-11905        | † Upper Ramp Right  |
| 81       | 24-6549     | A-17836        | Upper Extra Ball    |
| 82       | 24-6549     | A-17835        | Wimpy 2X Wheel      |
| 83       | 24-8768     | A-17853        | Two Bank Upper      |
| 84       | 24-8768     | A-17853        | Two Bank Lower      |
| 85       | 24-6549     | A-17835        | Animal Jackpot      |
| 86       | 20-9663-9   | ---            | Buy-In              |
| 87       | 20-9663-B-4 | ---            | Launch Button       |
| 88       | 20-9663-1   | ---            | Start Button        |

\* Not Shown

† Associated Parts: A-12753-2 Lug & Diode



24-8768 = #555 Bulb  
24-6549 = #44 Bulb

## SWITCH MATRIX

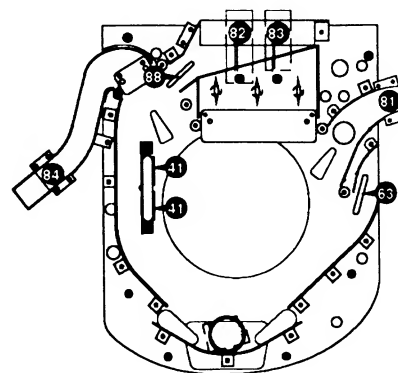
| Dedicated Grounded Switches               | Column | White → Green               |                           |                              |                              |                             |                            |                              |                             | Flipper Grounded Switches                                |
|---|--------|-----------------------------|---------------------------|------------------------------|------------------------------|-----------------------------|----------------------------|------------------------------|-----------------------------|--|
|   |        | 1 Green-Brown J207-1 U20-18 | 2 Green-Red J207-2 U20-17 | 3 Green-Orange J207-3 U20-16 | 4 Green-Yellow J207-4 U20-15 | 5 Green-Black J207-5 U20-14 | 6 Green-Blue J207-6 U20-13 | 7 Green-Violet J207-7 U20-12 | 8 Green-Gray J207-9 U20-11  |  |
| Orange-Brown J206-1                       | Row    | 1 White-Brown J206-1 U18-11 | 2 White-Slam Tilt         | 3 White-Popper               | 4 White-Two Bank             | 5 White-Trough              | 6 White-Cheek              | 7 White-Popeye "P1"          | 8 White-Upper Exit To Wheel | Black-Green J906-1 Right Flipper End of Stroke F1        |
| Left Coin Chute D1                        |        | 11                          | 21                        | 31                           | 41                           | 51                          | 61                         | 71                           | 81                          |  |
| Orange-Red J206-2                         |        | 2 White-Red J206-2 U18-9    | Buy-In                    | Coin Door Closed             | Right Popper                 | Center Lane                 | Trough 2nd                 | Right Cheek                  | Popeye "O"                  | Blue-Violet J905-1 Right Flipper Opto F2                 |
| Center Coin Chute D2                      |        | 12                          | 22                        | 32                           | 42                           | 52                          | 62                         | 72                           | 82                          |  |
| Orange-Black J206-3                       |        | 3 White-Orange J206-3 U18-5 | Start Button              | Ball Launch                  | Right Loop Opto              | Lockup Upper                | Trough 3rd                 | Escalator Exit               | Popeye "P2"                 | Black-Blue J906-3 Left Flipper End of Stroke F3          |
| Right Coin Chute D3                       |        | 13                          | 23                        | 33                           | 43                           | 53                          | 63                         | 73                           | 83                          |  |
| Orange-Yellow J206-4                      |        | 4 White-Yellow J206-4 U18-7 | Plumb Bob Tilt            | Always Closed                | Ramp Entrance                | Lockup Center               | Trough 4th                 | Animal Dolphin               | Left Outlane                | Blue-Gray J905-2 Left Flipper Opto F4                    |
| 4th Coin Chute D4                         |        | 14                          | 24                        | 34                           | 44                           | 54                          | 64                         | 74                           | 84                          |  |
| Orange-Green J206-5                       |        | 5 White-Green J206-5 U18-11 | Right Lane                | Left Loop                    | Ramp Completion              | Lockup Lower                | Trough 5th                 | Animal Eagle                 | Left Flipper Lane           | Black-Violet J906-4 Upper Right Flipper End of Stroke F5 |
| Normal Function Service Credits Escape D5 |        | 15                          | 25                        | 35                           | 45                           | 55                          | 65                         | 75                           | 85                          |  |
| Orange-Blue J206-6                        |        | 6 White-Blue J206-6 U18-9   | Left Jet                  | Popeye "E1"                  | Escalator Popper             | Wheel Opto 1                | Left Trough                | Animal Tiger                 | Left Slingshot              | Black-Yellow J906-5 Upper Right Flipper Opto F6          |
| Normal Function Volume Down D6            |        | 16                          | 26                        | 36                           | 46                           | 56                          | 66                         | 76                           | 86                          |  |
| Orange-Violet J206-7                      |        | 7 White-Violet J206-7 U18-5 | Right Jet                 | Popeye "Y"                   | Wheel Exit                   | Wheel Opto 2                | Trough Jam                 | Animal Panda                 | Right Slingshot             | Black-Gray J906-6 Upper Left Flipper End of Stroke F7    |
| Normal Function Volume Up D7              |        | 17                          | 27                        | 37                           | 47                           | 57                          | 67                         | 77                           | 87                          |  |
| Orange-Gray J206-8                        |        | 8 White-Gray J206-8 U18-7   | Center Jet                | Popeye "E2"                  | "Hag" Standup                | Wheel Opto 3                | "Sea" Standup              | Animal Rhino                 | Right Flipper Lane          | Black-Blue J906-7 Upper Left Flipper Opto F8             |
| Normal Function Begin Test Enter D8       |        | 18                          | 28                        | 38                           | 48                           | 58                          | 68                         | 78                           | 88                          |  |

J20X = CPU Board, J90X = Fliptron II Board □ = Opto, Typically Closed

## SWITCH LOCATIONS

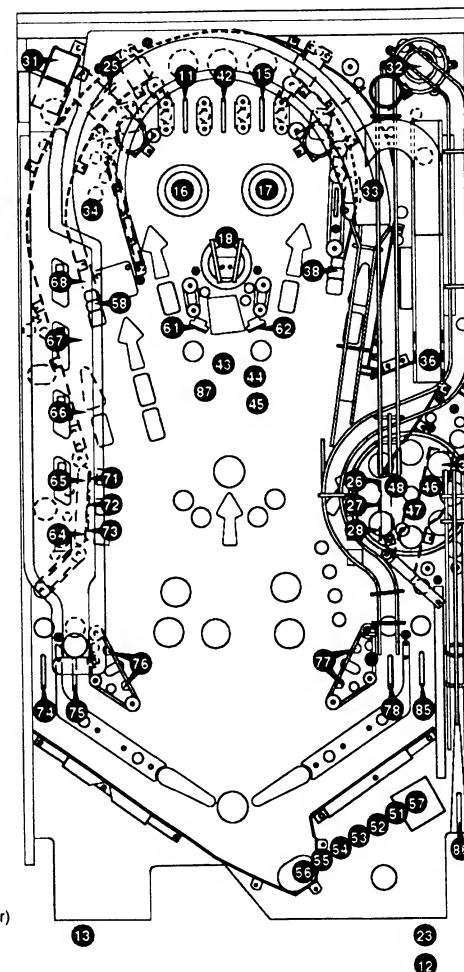
| Item | Switch Part # | Where Used                   | Item | Switch Part #    | Where Used       |
|------|---------------|------------------------------|------|------------------|------------------|
| F1   | SW-1A-194     | *Lower Right Flipper EOS     | 32   | A-16908 (LED)    | Right Popper     |
| F2   | A-17316       | *Lower Right Flipper Cabinet | 33   | A-16909 (Trans.) | Right Loop Opto  |
| F3   | SW-1A-194     | *Lower Left Flipper EOS      | 34   | A-16908 (LED)    | Ramp Entrance    |
| F4   | A-17316       | *Lower Left Flipper Cabinet  | 35   | A-16909 (Trans.) | Ramp Completion  |
| F5   | SW-1A-194     | *Upper Right Flipper EOS     | 36   | A-16908 (LED)    | Escalator Popper |
| F6   | A-17316       | *Upper Right Flipper Cabinet | 37   | A-16909 (Trans.) | Wheel Exit       |
| F7   | SW-1A-194     | *Upper Left Flipper EOS      | 38   | A-17795-6        | "Hag" Stand-up   |
| F8   | A-17316       | *Upper Left Flipper Cabinet  | 41   | A-17226-4        | Two Bank (2)     |
| 11   | 5647-12693-19 | Left Lane                    | 42   | 5647-12693-19    | Center Lane      |
| 12   | 20-9683-9     | Buy-In                       | 43   | 5647-12693-25    | ↑ Lockup Upper   |
| 13   | 20-9683-1     | Start Button                 | 44   | 5647-12693-25    | ↑ Lockup Center  |
| 14   | A-15361       | *Plumb Bob Tilt              | 45   | 5647-12693-25    | ↑ Lockup Lower   |
| 15   | 5647-12693-19 | Right Lane                   | 46   | A-17089          | ↑ Wheel Opto 1   |
| 16   | SW-11A-37     | Left Jet                     | 47   | A-17089          | ↑ Wheel Opto 2   |
| 17   | SW-11A-37     | Right Jet                    | 48   | A-17089          | ↑ Wheel Opto 3   |
| 18   | SW-11A-37     | Center Jet                   | 51   | A-16927 (LED)    | Right Trough     |
| 21   | A-17238       | *Slam Tilt                   | 52   | A-16926 (Trans.) | Trough 2nd       |
| 22   | 5643-09288-00 | *Coin Door Closed            | 53   | A-16927 (LED)    | Trough 3rd       |
| 23   | 20-9683-B-4   | Ball Launch                  |      | A-16926 (Trans.) |                  |
| 24   | 5643-09112-00 | *Always Closed               |      |                  |                  |
| 25   | 5647-12693-19 | Left Loop                    |      |                  |                  |
| 26   | A-17778-15    | Popeye "E1"                  |      |                  |                  |
| 27   | A-17778-15    | Popeye "Y"                   |      |                  |                  |
| 28   | A-17778-15    | Popeye "E2"                  |      |                  |                  |
| 31   | A-16908 (LED) | Left Popper                  |      |                  |                  |

## SWITCH LOCATIONS Continued



| Item | Switch Part #    | Where Used               |
|------|------------------|--------------------------|
| 54   | A-16927 (LED)    | Trough 4th               |
| 55   | A-16926 (Trans.) | Trough 5th               |
| 56   | A-16927 (LED)    | Left Trough              |
| 57   | A-16927 (LED)    | Trough Jam               |
| 58   | A-17795-6        | *Sea' Stand-up           |
| 61   | A-17799-4        | Left Cheek               |
| 62   | A-17799-4        | Right Cheek              |
| 63   | 5647-12693-19    | Escalator Exit           |
| 64   | 5647-12693-21    | Animal Dolphin           |
| 65   | 5647-12693-21    | Animal Eagle             |
| 66   | 5647-12693-21    | Animal Tiger             |
| 67   | 5647-12693-21    | Animal Panda             |
| 68   | 5647-12693-21    | Animal Rhino             |
| 71   | A-17799-15       | Popeye "P1"              |
| 72   | A-17799-15       | Popeye "O"               |
| 73   | A-17799-15       | Popeye "P2"              |
| 74   | 5647-12693-19    | Left Outlane             |
| 75   | 5647-12693-19    | Left Flipper Lane        |
| 76   | SW-1A-114        | Left Slingshot (kicker)  |
| 77   | SW-1A-114        | Right Slingshot (kicker) |
| 78   | SW-1A-114        | (score)                  |
| 81   | 5647-12693-19    | Right Flipper Lane       |
| 82   | A-16908 (LED)    | Upper Exit to Wheel      |
| 83   | A-16909 (Trans.) | Upper Ramp Left          |
| 84   | A-16908 (LED)    | Upper Ramp Right         |
| 85   | A-16909 (Trans.) |                          |
| 86   | 5647-12693-25    | Animal Jackpot           |
| 87   | 5647-12693-19    | Right Outlane            |
| 88   | 5647-12693-19    | Shooter Lane             |
|      | 5647-12693-25    | ↑ Lockup Kicker          |
|      | 5647-12693-19    | Upper Shot Exit          |

\* Not Shown  
† Located Under Playfield



## SOLENOID TABLE

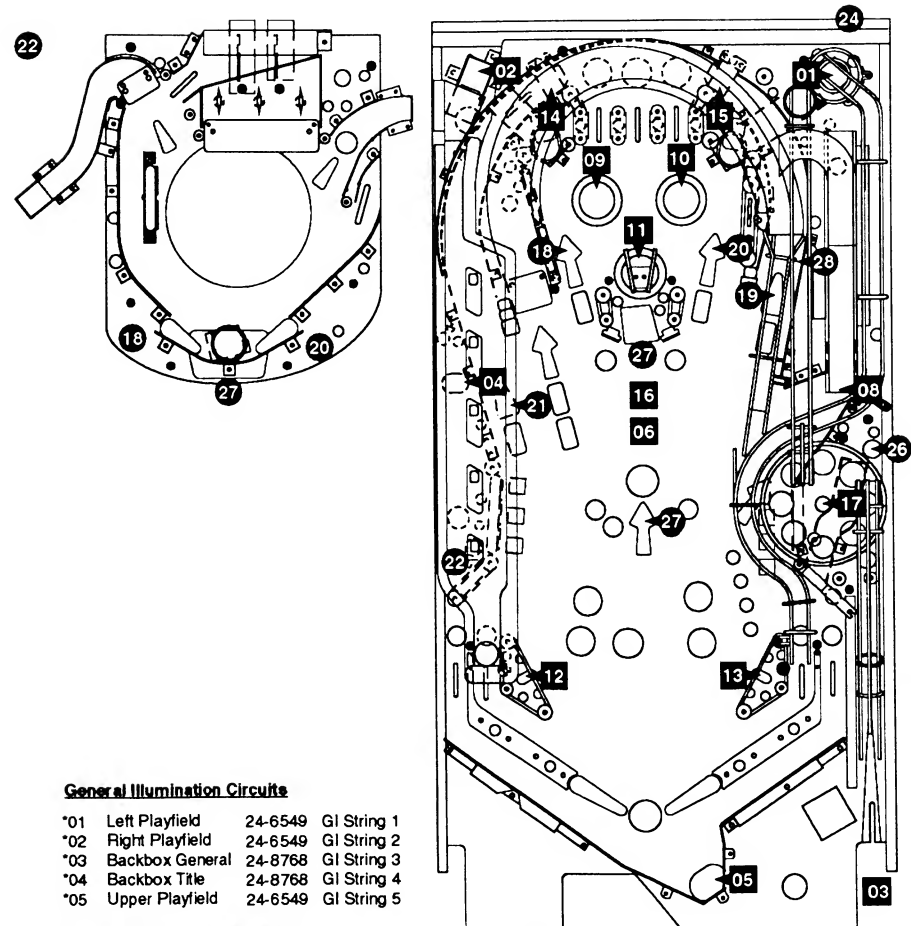
| Sol. No.                    | Function               | Solenoid Type | Voltage Connections |                  |                   | Drive Driver      | Drive Connections |            |         | Drive Wire Color | Solenoid Part Number |           |
|-----------------------------|------------------------|---------------|---------------------|------------------|-------------------|-------------------|-------------------|------------|---------|------------------|----------------------|-----------|
|                             |                        |               | Playfield           | Backbox          | Cabinet           |                   | Playfield         | Backbox    | Cabinet |                  | Flashlamp Type       | Backbox   |
| 01                          | Right Popper           | High Power    | J130-1              |                  |                   | Q82               | J107-3            |            |         | Vio-Brn          | AE-26-1200           |           |
| 02                          | Left Popper            | High Power    | J130-2              |                  |                   | Q80               | J107-3            |            |         | Vio-Red          | AE-24-900            |           |
| 03                          | Ball Shooter           | High Power    | J130-4              |                  |                   | Q78               | J107-3            |            |         | Vio-Grn          | AE-23-800            |           |
| 04                          | Animal Diverter        | High Power    | J130-5              |                  |                   | Q76               | J107-3            |            |         | Vio-Yel          | AE-26-1200           |           |
| 05                          | Trough Coil            | High Power    | J130-6              |                  |                   | Q64               | J107-3            |            |         | Vio-Grn          | AE-26-1500           |           |
| 06                          | Lockup Kicker          | High Power    | J130-7              |                  |                   | Q66               | J107-3            |            |         | Vio-Blu          | AE-23-800            |           |
| 07                          | Knocker                | High Power    |                     | J130-8           |                   | Q68               |                   | J107-3     |         | Vio-Blk          |                      | AE-23-800 |
| 08                          | Escalator Popper       | High Power    | J130-9              |                  |                   | Q70               | J107-3            |            |         | Vio-Grn          | AE-23-800            |           |
| 09                          | Left Jet               | Low Power     | J127-1              |                  |                   | Q58               | J107-2            |            |         | Brm-Blk          | AE-26-1200           |           |
| 10                          | Right Jet              | Low Power     | J127-3              |                  |                   | Q56               | J107-2            |            |         | Brm-Red          | AE-26-1200           |           |
| 11                          | Center Jet             | Low Power     | J127-4              |                  |                   | Q54               | J107-2            |            |         | Brm-Grn          | AE-26-1200           |           |
| 12                          | Left Slingshot         | Low Power     | J127-5              |                  |                   | Q52               | J107-2            |            |         | Brm-Yel          | AE-26-1200           |           |
| 13                          | Right Slingshot        | Low Power     | J127-6              |                  |                   | Q50               | J107-2            |            |         | Brm-Grn          | AE-26-1200           |           |
| 14                          | Left Gate              | Low Power     | J127-7              |                  |                   | Q48               | J107-2            |            |         | Brm-Blu          | A-14406              |           |
| 15                          | Right Gate             | Low Power     | J127-8              |                  |                   | Q46               | J107-2            |            |         | Brm-Vio          | A-14406              |           |
| 16                          | Lockup Release         | Low Power     | J127-9              |                  |                   | Q44               | J107-2            |            |         | Brm-Grn          | AE-26-1500           |           |
| 17                          | Wheel Motor            | Flasher       | J128-1              |                  |                   | Q42               | J107-6            |            |         | Bk-Brm           | 14-7990              |           |
| 18                          | Upper Playfield Left   | Flasher       | J128-2              |                  |                   | Q40               | J107-6            |            |         | Bk-Red           | #908 (#98(2))        | #908 (1)  |
| 19                          | Right Loop Backbox     | Flasher       | J128-3              | J125-5           |                   | Q38               | J107-6            | J108-5     |         | Bk-Grn           | #908 (#98(2))        | #908 (1)  |
| 20                          | Fight Bluto            | Flasher       | J128-4              |                  |                   | Q36               | J107-6            |            |         | Bk-Yel           | #908 (#98(2))        | #908 (1)  |
| 21                          | Left Loop Bkbox        | Flasher       | J128-5              | J125-6           |                   | Q28               | J107-6            | J108-5     |         | Bk-Grn           | #908 (1)             | #908 (1)  |
| 22                          | Animal Ramp            | Flasher       | J128-6              | J125-7           |                   | Q30               | J107-6            | J108-5     |         | Bk-Blk           | #908 (2)             | #908 (1)  |
| 23                          | Skill Wheel            | Flasher       | J128-7              | J125-8           |                   | Q34               | J107-6            | J108-5     |         | Bk-Vio           | #908 (1)             | #908 (1)  |
| 24                          | R Popper Bkbox         | Flasher       | J128-8              | J125-9           |                   | Q32               | J107-6            | J108-5     |         | Bk-Grn           | #908 (1)             | #908 (1)  |
| 25                          | Not Used               | Gen. Purpose  |                     |                  |                   | Q26               |                   |            |         | Bk-Brm           |                      |           |
| 26                          | Ramp Jackpot           | Gen. Purpose  | J122-2              | J124-2           |                   | Q24               | J107-6            | J108-5     |         | Bk-Red           | #908 (1)             | #908 (1)  |
| 27                          | Lockjaw Arrow          | Gen. Purpose  | J122-3              | J124-3           |                   | Q22               | J107-6            | J108-5     |         | Bk-Blu           | #908 (2)             | #908 (1)  |
| 28                          | Escalator Bkbox Turtle | Gen. Purpose  | J122-4              | J124-4           |                   | Q20               | J107-6            | J108-5     |         | Bk-Yel           | #908 (1)             | #908 (1)  |
| <b>General Illumination</b> |                        |               |                     |                  |                   |                   |                   |            |         |                  |                      |           |
| 01                          | Left Playfield         | G.I.          | J121-1              |                  |                   | Q18               | J121-7            |            |         | Wht-Brn          | 24-6549              |           |
| 02                          | Right Playfield        | G.I.          | J121-2              |                  |                   | Q10               | J121-8            |            |         | Wht-Grn          | 24-6549              |           |
| 03                          | Backbox General        | G.I.          |                     | J120-3           |                   | Q14               |                   | J120-9     |         | Wht-Yel          |                      | 24-8788   |
| 04                          | Backbox Title          | G.I.          |                     | J120-5           |                   | Q16               |                   | J120-10    |         | Wht-Gm           |                      | 24-8788   |
| 05                          | Upper Playfield        | G.I.          | J121-6              |                  |                   | Q12               | J121-11           |            |         | Wht-Vio          | 24-6549              |           |
| <b>Flipper Circuits</b>     |                        |               |                     |                  |                   |                   |                   |            |         |                  |                      |           |
|                             |                        |               | Voltage Connections |                  | Drive Transistors | Drive Connections |                   | Drive Wire | Colors  | Coil Part        | Coil Colors          |           |
|                             |                        |               | Playfield           |                  | Power Hold        | Playfield         |                   | Power      | Hold    | Number           |                      |           |
| Lower Left Flipper          |                        |               | Lwr. Lt. Power      | J807-7 (Grn-Yel) | Q3                | Q9                | J802-9            | Bk-Grn     | Org-Bk  | FL-11629         | BLUE                 |           |
|                             |                        |               | Lwr. Lt. Hold       | J807-7 (Grn-Yel) |                   |                   | J802-7            |            |         |                  |                      |           |
| Lower Right Flipper         |                        |               | Lwr. Rt. Power      | J807-8 (Bk-Yel)  | Q4                | Q11               | J802-13           | Bk-Vio     | Org-Grn | FL-11629         | BLUE                 |           |
|                             |                        |               | Lwr. Rt. Hold       | J807-8 (Bk-Yel)  |                   |                   | J802-11           |            |         |                  |                      |           |
| Upper Left Flipper          |                        |               | Up Lt. Power        | J807-1 (Grn-Yel) | Q5                | Q5                | J802-1            | Bk-Bk      | Org-Grn | FL-11722         | GREEN                |           |
|                             |                        |               | Up Lt. Hold         | J807-1 (Grn-Yel) |                   |                   | J802-1            |            |         |                  |                      |           |
| Upper Right Flipper         |                        |               | Up Rt. Power        | J807-4 (Bk-Yel)  | Q2                | Q7                | J802-6            | Bk-Yel     | Org-Vio | FL-11722         | GREEN                |           |
|                             |                        |               | Up Rt. Hold         | J807-4 (Bk-Yel)  |                   |                   | J802-4            |            |         |                  |                      |           |

J10X = Power Driver Board; J60X = Fliptron II Board; 24-6549 = #44 Bulb; 24-8704 = #88 Bulb; 24-8788 = #555 Bulb; 24-8802 = #908 Bulb

## SOLENOID/FLASHER LOCATIONS

| Item | Coil/Flasher Number | Assembly Number | Description      | Item | Coil/Flasher Number | Assembly Number | Description                 |
|------|---------------------|-----------------|------------------|------|---------------------|-----------------|-----------------------------|
| 01   | AE-26-1200          | A-17258         | Right Popper     | 16   | AE-26-1500          | A-17505         | † Lockup Release            |
| 02   | AE-24-900           | A-17180         | Left Popper      | 17   | 14-7990             | A-17623         | Wheel Motor                 |
| 03   | AE-23-800           | A-14525         | Ball Shooter     | 18   | 24-8802             | A-12336-1       | Upper Playfield Left (2)    |
| 04   | AE-26-1200          | A-17251         | Animal Diverter  |      | 24-8704             | A-17803         |                             |
| 05   | AE-26-1500          | A-16765         | Trough Coil      | 19   | 24-8704             | A-17803         | Right Loop Backbox (2)      |
| 06   | AE-23-800           | A-17505         | † Lockup Kicker  | 20   | 24-8802             | A-12336-1       | Fight Bluto (2)             |
| 07   | ---                 | B-16086-1       | * Knocker        |      | 24-8704             | A-17803         |                             |
| 08   | AE-23-800           | A-17774         | Escalator Popper | 21   | 24-8704             | A-17803         | Left Loop Bkbox. (2)        |
| 09   | AE-26-1200          | A-9415-2        | Left Jet         | 22   | 24-8802             | A-12336-1       | Animal Ramp (3)             |
| 10   | AE-26-1200          | A-9415-2        | Right Jet        |      | 24-8802             | A-17626-4       |                             |
| 11   | AE-26-1200          | A-9415-2        | Center Jet       | 23   | 24-8802             | A-12336-1       | Skill Wheel (2)             |
| 12   | AE-26-1200          | A-17809         | Left Slingshot   | 24   | 24-8802             | C-13337         | R. Popper Bkbox. Ex.B. (2)  |
| 13   | AE-26-1200          | A-17809-1       | Right Slingshot  | 25   | ---                 | ---             | Not Used                    |
| 14   | A-14406             | A-17796         | Left Gate        | 26   | 24-8704             | A-17803         | Ramp Jackpot (2)            |
| 15   | A-14406             | A-17796         | Right Gate       | 27   | 24-8704             | A-17803         | Lockjaw Arrow (3)           |
|      |                     |                 |                  | 28   | 24-8802             | A-12336-1       | Escalator Bkbox. Turtle (2) |

## SOLENOID LOCATIONS Continued



### General Illumination Circuits

|     |                 |         |             |
|-----|-----------------|---------|-------------|
| *01 | Left Playfield  | 24-6549 | GI String 1 |
| *02 | Right Playfield | 24-6549 | GI String 2 |
| *03 | Backbox General | 24-8768 | GI String 3 |
| *04 | Backbox Title   | 24-8768 | GI String 4 |
| *05 | Upper Playfield | 24-6549 | GI String 5 |

### Flipper Coils Assembly

|                   |             |                     |
|-------------------|-------------|---------------------|
| *FL-11629 (Blue)  | A-15849-L-2 | Lower Left Flipper  |
| *FL-11629 (Blue)  | A-15849-R-2 | Lower Right Flipper |
| *FL-11722 (Green) | A-16976-L-1 | Upper Left Flipper  |
| *FL-11722 (Green) | A-16976-R   | Upper Right Flipper |

\*Not Shown  
† Located Under Playfield

24-6549 = #44 Bulb  
24-8704 = #88 Bulb  
24-8768 = #555 Bulb  
24-8802 = #908 Bulb

■ Square indicates coil, P.C.B. or Magnet  
● Circle indicates flasher

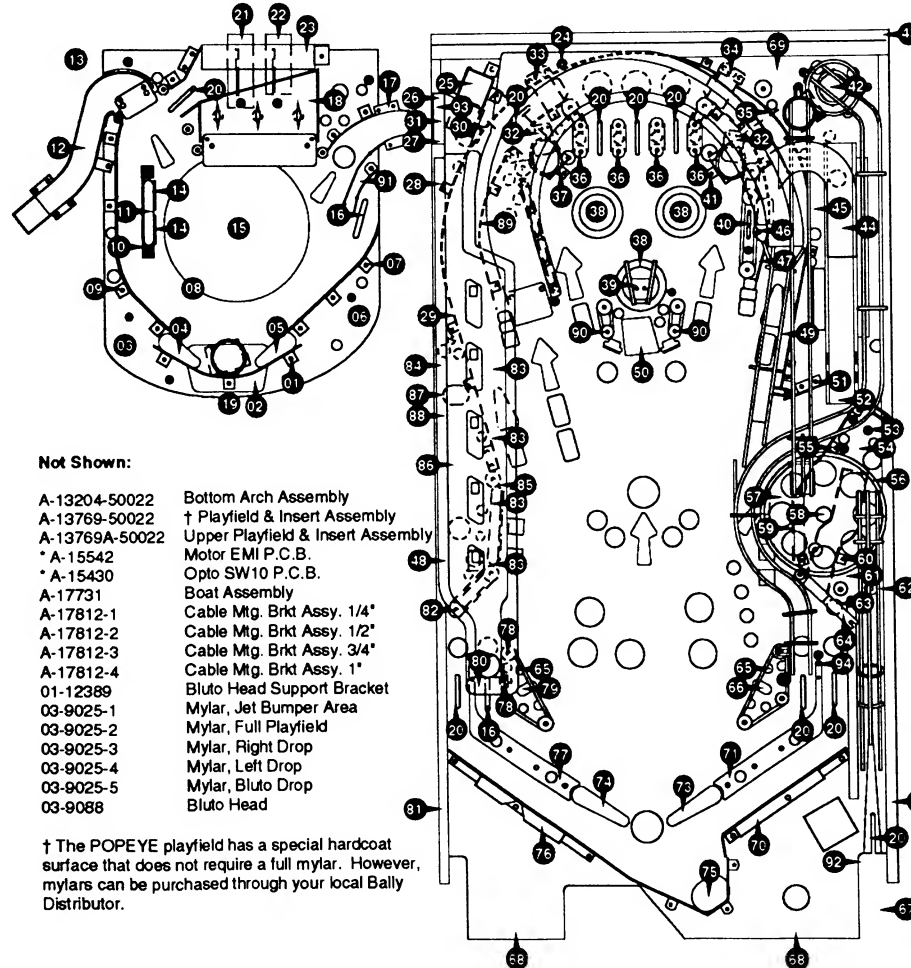
## UPPER PLAYFIELD PARTS LIST

### Item Part Description

|    |             |                             |    |             |                               |
|----|-------------|-----------------------------|----|-------------|-------------------------------|
| 1  | 01-12173    | Ball Guide                  | 58 | A-17639     | Decal Ring Cover Assembly     |
| 2  | A-17567     | Upper Level Drain Assembly  |    | * A-17623   | Wheel Motor Assembly          |
| 3  | A-17648     | Left Cover Assembly         | 59 | A-17783     | Target & Cable Assembly       |
| 4  | A-16976-L-1 | Flipper Assembly Complete   | 60 | A-17402     | Wheel Drop Guide Assembly     |
|    | 20-9732-5   | Small Flipper & Shaft       | 61 | A-17626-5   | Playfield Plastic Assembly    |
| 5  | A-16976-R   | Flipper Assembly Complete   | 62 | 02-4765-7   | Mounting Post 3.44"           |
|    | 20-9732-5   | Small Flipper & Shaft       | 63 | * 01-12214  | Post Adjustment Plate         |
| 6  | A-17649     | Right Cover Assembly        | 64 | A-17339     | Gate Assembly                 |
| 7  | 01-11815    | Ball Guide                  | 65 | A-17801     | Kicker Count Switch Assembly  |
| 8  | * A-17838   | Stud Plate Assembly (5)     | 66 | A-17811     | Ball Guide                    |
| 9  | 01-11816    | Ball Guide                  |    | A-17809-1   | Coil & Bracket Assembly       |
| 10 | 01-12171    | Ball Guide                  | 67 | A-14525     | Kicker Assembly               |
| 11 | A-17647     | Light Cover Assembly        | 68 | 01-9211     | Playfield Hanger Bracket      |
| 12 | A-17736     | Exit Ramp Assembly          | 69 | A-17626-8   | Playfield Plastic Assembly    |
| 13 | A-17626-4   | Playfield Plastic Assembly  | 70 | 01-12296    | Ball Guide                    |
| 14 | A-17226-4   | Stationary Target, Red      | 71 | A-17577-2   | Flipper Guide & Plastic Assy. |
| 15 | 03-8947     | Upper Playfield Window      | 72 | 01-11806    | Right Playfield Rail          |
| 16 | A-17813-1   | Rollover Switch Assembly    | 73 | A-15849-R-2 | Flipper Assembly Complete     |
| 17 | A-17403     | Upper Right Exit Assembly   |    | 20-9734-5   | Flipper & Shaft Assembly      |
| 18 | A-17462     | Upper Level Ramp Assembly   | 74 | A-15849-L-2 | Flipper Assembly Complete     |
| 19 | A-17817     | Light & Bracket Assembly    |    | 20-9734-5   | Flipper & Shaft Assembly      |
| 20 | A-17813     | Rollover Switch Assembly    | 75 | A-16765     | Outsole Ball Trough Assy.     |
| 21 | A-17738     | Opto Bracket Assembly       | 76 | 01-12448    | Ball Guide                    |
| 22 | A-17737     | Opto Bracket Assembly       | 77 | A-17577-1   | Flipper Guide & Plastic Assy. |
| 23 | A-17769     | Upper Ramp Deflector Assy.  | 78 | 02-4436-25  | Standoff 1 9/16"              |
| 24 | 02-4765-6   | Mounting Post 3.13"         | 79 | A-17811     | Slingshot Kicker Assembly     |
| 25 | A-17180     | Ball Popper Assembly        |    | A-17809     | Coil & Bracket Assembly       |
|    | 01-12460    | Cover, Left Ball Popper     | 80 | 01-12166    | Ramp Ball Deflector           |
| 26 | 02-4176-30  | Standoff 1 7/8"             | 81 | 01-11805    | Left Playfield Rail           |
|    | 02-4176-54  | Standoff 3 3/16"            | 82 | * 01-9510   | Post Adjustment Plate         |
| 27 | 02-4176-54  | Standoff 3 3/16"            | 83 | A-17906     | Switch Assembly               |
| 28 | 02-4968-1   | Standoff 2.94"              | 84 | 02-4968-1   | Standoff 2.94"                |
| 29 | 01-11818    | Ball Guide                  | 85 | 12-7183     | Ball Guide Wire               |
| 30 | 02-4176-30  | Standoff 1 7/8"             | 86 | A-17626-2   | Playfield Plastic Assembly    |
|    | 02-4765-8   | Mounting Post 4.31"         | 87 | A-17251     | Coil & Bracket Assembly       |
| 31 | 01-12133    | Bracket, Left Drop Ramp     |    | * 02-4724   | Entry Ramp Rollover           |
| 32 | 01-11160    | Ball Deflector Bracket      |    | * 12-6227   | Hair Pin Clip                 |
| 33 | A-17797-2   | Special Ball Gate Assembly  | 88 | A-17560     | 5 Position Kicker Assembly    |
|    | A-17796     | Ball Gate Actuator Assembly | 89 | 01-11814    | Ball Guide                    |
| 34 | A-17797-1   | Special Ball Gate Assembly  | 90 | 02-4903     | Mounting Post                 |
|    | A-17796     | Ball Gate Actuator Assembly | 91 | 01-12305    | Ball Guide                    |
| 35 | 01-12387    | Ball Guide                  | 92 | 02-12417    | Ball Guide                    |
| 36 | 03-8318-16  | Light Hood, Yellow          | 93 | 01-12461    | Cover Bracket                 |
| 37 | 01-11921    | Ramp, Left Ball Popper      | 94 | 02-4020     | Support Post (8)              |
| 38 | A-9415-2    | Jet Bumper Coil Assembly    |    |             |                               |
|    | B-9414-3    | Jet Bumper Assembly         |    |             |                               |
|    | B-12030-2   | Jet Bumper Switch Assembly  |    |             |                               |
|    | 03-8254-10  | Jet Bumper Cap, Blue        |    |             |                               |
| 39 | A-17626-7   | Playfield Plastic Assembly  |    |             |                               |
| 40 | 12-6466-5   | Ball Guide Wire 1 1/4"      |    |             |                               |
| 41 | 01-11973    | Ramp, Right Ball Popper     |    |             |                               |
| 42 | A-17258     | Ball Popper Assembly        |    |             |                               |
| 43 | A-17129     | Back Rail Assembly          |    |             |                               |
|    | A-17401     | Back Panel Assembly         |    |             |                               |
| 44 | A-17777     | Guide Ramp Assembly         |    |             |                               |
| 45 | A-17536     | Opto Bracket Assembly       |    |             |                               |
| 46 | 02-4765-6   | Mounting Post 3.13"         |    |             |                               |
| 47 | 01-11817    | Ball Guide                  |    |             |                               |
| 48 | 02-4968-1   | Standoff 2.94"              |    |             |                               |
| 49 | A-17626-3   | Playfield Plastic Assembly  |    |             |                               |
| 50 | * A-17505   | Center Ball Lock Assembly   |    |             |                               |
| 51 | 01-12329    | Ball Guide                  |    |             |                               |
| 52 | * A-17774   | Kicker Coil Assembly        |    |             |                               |
| 53 | 02-4765-7   | Mounting Post 3.44"         |    |             |                               |
| 54 | A-17626-1   | Playfield Plastic Assembly  |    |             |                               |
| 55 | 01-12330    | Ball Guide                  |    |             |                               |
| 56 | A-17895     | Wheel Ring Assembly         |    |             |                               |
| 57 | A-17145     | Rotating Plate Assembly     |    |             |                               |

\* Located Under Playfield.

## UPPER PLAYFIELD PARTS LOCATIONS



### Not Shown:

|                |                                   |
|----------------|-----------------------------------|
| A-13204-50022  | Bottom Arch Assembly              |
| A-13769-50022  | † Playfield & Insert Assembly     |
| A-13769A-50022 | Upper Playfield & Insert Assembly |
| * A-15542      | Motor EMI P.C.B.                  |
| * A-15430      | Opto SW10 P.C.B.                  |
| A-17731        | Boat Assembly                     |
| A-17812-1      | Cable Mtg. Brkt Assy. 1/4"        |
| A-17812-2      | Cable Mtg. Brkt Assy. 1/2"        |
| A-17812-3      | Cable Mtg. Brkt Assy. 3/4"        |
| A-17812-4      | Cable Mtg. Brkt Assy. 1"          |
| 01-12389       | Bluto Head Support Bracket        |
| 03-9025-1      | Mylar, Jet Bumper Area            |
| 03-9025-2      | Mylar, Full Playfield             |
| 03-9025-3      | Mylar, Right Drop                 |
| 03-9025-4      | Mylar, Left Drop                  |
| 03-9025-5      | Mylar, Bluto Drop                 |
| 03-9088        | Bluto Head                        |

† The POPEYE playfield has a special hardcoat surface that does not require a full mylar. However, mylars can be purchased through your local Bally Distributor.

## RUBBER PARTS

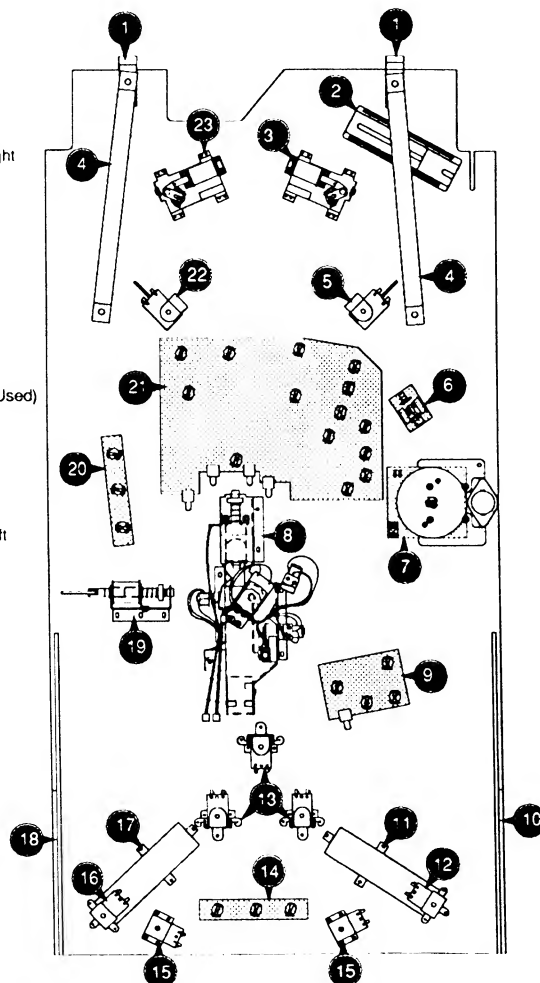
### LOWER PLAYFIELD PARTS

#### Item Part Number Description

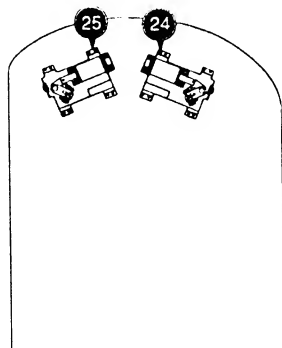
1. 01-9211 Ptf'd. Hanger Bracket (2 Used)
2. A-16765 Outhole Ball Trough Assembly
3. A-15849-R-2 Flipper Assembly, Lwr. Right
4. 01-11781 Leg Support (2 Used)
5. A-17811 Kicker Arm (Slingshot) Assy., Right
- A-17809 Coil & Bracket Assembly
- 10-128 Spring
6. A-15542 Motor EMI Assembly
7. A-17623 Wheel Motor Assembly
8. A-17505 Center Ball Lock Assembly
9. A-17600 5-Lamp PC Board Assy.
10. A-17749-2 Ptf'd. Slide Mechanism, Right
11. 01-11973 Right Ramp-Ball Popper
12. A-17258 Ball Popper Assembly
13. A-9415-2 Jet Bumper Coil Assembly
14. A-17624 3-Lamp PC Board Assy.
15. A-17796 Ball Gate Actuator Assembly (2 Used)
16. A-17180 Popper Assembly - Left
17. 01-11921 Left Ramp-Ball Popper
18. A-17749-1 Ptf'd. Slide Mechanism, Left
19. A-17251 Coil & Bracket Assembly
20. A-17603 3-Lamp PC Board Assy.
21. A-17602 18-Lamp PC Board Assy.
22. A-17811 Kicker Arm (Slingshot) Assy., Left
- A-17809-1 Coil & Bracket Assembly
- 10-128 Spring
23. A-15849-L-2 Flipper Assembly, Lwr. Left

#### Lower Playfield Parts on Mini-Playfield:

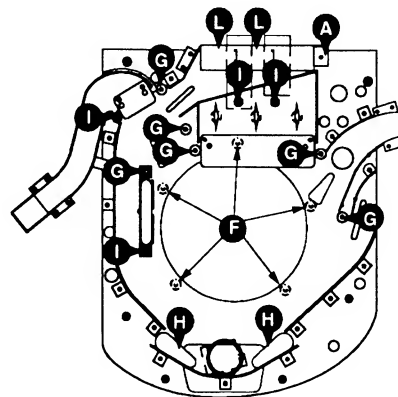
24. A-16976-R Flipper Assembly, Right
25. A-16976-L-1 Flipper Assembly, Left



Underside of Playfield, Viewed in Raised Position

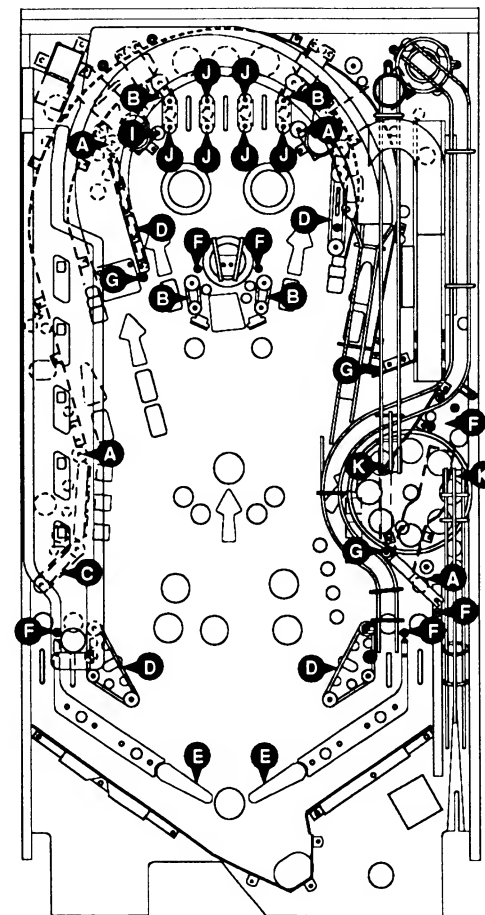


Underside of Mini-Playfield



#### ITEM PART# DESCRIPTION QTY.

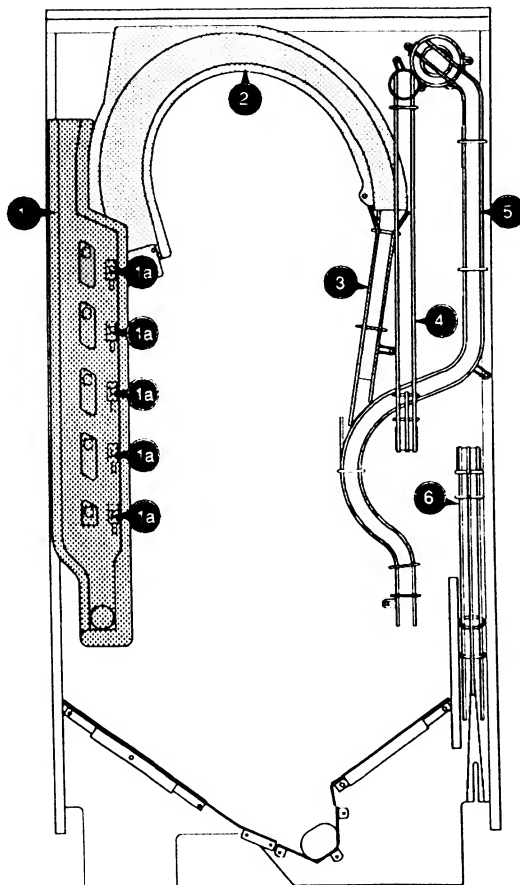
- |    |           |                    |    |
|----|-----------|--------------------|----|
| A. | 23-6300   | 5/16" Ring         | 5  |
| B. | 23-6301   | 3/4" Ring          | 4  |
| C. | 23-6303   | 1 1/4" Ring        | 1  |
| D. | 23-6306   | 2 1/2" Ring        | 4  |
| E. | 23-6519-4 | Flipper Ring-Red   | 2  |
| F. | 23-6535   | Grommet            | 13 |
| G. | 23-6552   | Yellow Sleeve      | 9  |
| H. | 23-6553-4 | Small Flipper Ring | 2  |
| I. | 23-6556   | Black Sleeve       | 5  |
| J. | 23-6641-1 | 15/64" Ring        | 6  |
| K. | 23-6686   | Bumper Pad         | 2  |
| L. | 23-6702   | Bumper Plug        | 2  |



## RAMPS

### Item Part Number Description

1. A-17404 Main Ramp Assembly
- a) A-17906 U-Switch Subminiature Assy.
2. A-17177 Ramp Assembly
3. 12-7184 Wire Ramp - Center
4. A-17406 Wheel Feeder Wire Ramp Assy.
5. 12-7132 Ramp, Right
6. A-17405 Wire Ramp Chute Assembly



## FUSE LIST

### Fliptronic II Controller Board

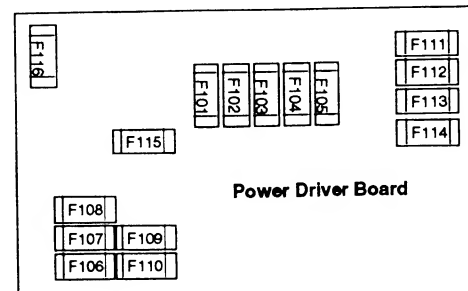
F901  
F902  
F903  
F904

### Audio Board

F501  
F502

### Dot Matrix Controller Board

F602  
F601



### Power Driver Board

### Audio Board

F501 -25V Circuit 3A, 250V, S.B.  
F502 +25V Circuit 3A, 250V, S.B.

### Dot Matrix Controller Board

F601 +62V Circuit 3/8A, 250V, F.B.  
F602 -113V and -125V Circuits 3/8A, 250V, F.B.

### Power Driver Board

F101 Left Flipper 3A, 250V, S.B. (Not Used)  
F102 Right Flipper 3A, 250V, S.B. (Not Used)  
F103 Solenoid #25-#28 3A, 250V, S.B.  
F104 Solenoid #9-#16 3A, 250V, S.B.  
F105 Solenoid #1-#8 3A, 250V, S.B.  
F106 G.I. #5 Wht-Vio 5A, 250V, S.B.  
F107 G.I. #4 Wht-Grn 5A, 250V, S.B.  
F108 G.I. #3 Wht-Yel 5A, 250V, S.B.

F109 G.I. #2 Wht-Org 5A, 250V, S.B.  
F110 G.I. #1 Wht-Brn 5A, 250V, S.B.  
F111 Flasher Secondary 5A, 250V, S.B.  
F112 Solenoid Secondary 7A, 250V, S.B.  
F113 +5V Logic 5A, 250V, S.B.  
F114 +18V Lamp Matrix 8A, 32V, N.B.  
F115 +12V Switch Matrix 3/4A, 250V, F.B.  
F116 +12V Secondary 3A, 250V, S.B.

### Fliptronic II Controller Board

F901 Upper Right Flipper 3A, 250V, S.B.  
F902 Upper Left Flipper 3A, 250V, S.B.  
F903 Lower Right Flipper 3A, 250V, S.B.  
F904 Lower Left Flipper 3A, 250V, S.B.

### Line Filter

Domestic Game 8A  
Foreign Game 5A, S.B.



## **WARNINGS & NOTICES**

### **WARNING**

**FOR SAFETY AND RELIABILITY**, substitute parts and equipment modifications are not recommended. Use of Non-BALLY parts or modifications of game circuitry, may adversely affect game play, or may cause injuries.

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### **RF Interference Notice**

CABLE HARNESS PLACEMENTS and ground strap routing on this game have been designed to keep RF radiation and conduction within levels accepted by the FCC Rules.

TO MAINTAIN THESE LEVELS, reposition harnesses and reconnect ground straps to their original placements, if they become disconnected during maintenance.

**FCC STICKER.** Check the back of your game to verify that an FCC-certification sticker was attached to your game at the factory. All Games that leave the BALLY plant have been tested and found to comply with FCC Rules. Because the sticker is proof of this fact, legal repercussions to the owner and distributor may result, if the sticker is missing. If you receive a game, manufactured after December 1982, that has no FCC sticker, call BALLY for advice or write us a note on your Game Registration Card. Be sure that the card bears your game's serial number.

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CALL your authorized  
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**CAUTION: Transport this game ONLY  
with hinged backbox DOWN!**